



CLASSROOM INNOVATION IN MATHEMATICS GRANT 2010-11

OVERVIEW

Purpose: From 2005 to 2009, state scores in mathematics were stagnant, rising only one percentage point over the four-year span. At the state level, IDOE is currently exploring new, innovative classroom strategies that will help to push mathematics in Indiana forward. One such strategy is the integration of digital curriculum and technology into traditional teaching methodologies.

The purpose of the program is to provide a select number of LEAs with the opportunity to use digital mathematics curricula, technology-based instruction, and interactive white boards in lieu of traditional textbooks. This grant provides an opportunity for LEAs to pilot digital curriculum which can be readily aligned to changes in standards and to determine its effectiveness with their student populations and within their contexts. Following the grant, LEAs will either continue the use of digital curriculum through their textbook rental program or discontinue use of the digital curriculum and seek an alternative for curricular materials. Digital curriculum would need to utilize innovative strategies for instruction and represent a significant break from the traditional textbook-oriented instruction and be approved by the IDOE, but it would not serve as a standalone, online course that replaces the classroom teacher. In order to evaluate the effectiveness of these strategies, awards will be limited to schools that propose plans for either: 6th Grade, 7th Grade, 8th Grade, and/or Algebra I. The results of this pilot program will be used to evaluate the effectiveness of digital curriculum and provide data for schools that may look at adopting digital mathematics curricula in the future.

This grant program is funded through the David C. Ford Fund.

Application: Please fill out each part completely. For assistance, you may contact Zach Foughty at zfoughty@doe.in.gov or Phone: (317) 233-5019

I. GENERAL INFORMATION

1. Corp # 7775	2. Corp Name Switzerland County School Corporation	
3. Corp Address (Street, City, State, Zip) 305 West Seminary, Vevay, Indiana 47043		4. Telephone (812)-427-2611
5. Contact Person's Name Ginny Reeves		6. Contact Person's Email Address vreeves@switzerland.k12.in.us
7. Contact Person's Address (Street, City, State, Zip) 1020 West Main, Vevay, IN 47043		8. Contact Person's Telephone (812)-427-2611
9. Superintendent's Name Dr. Elizabeth Tharp Jones		10. Superintendent's Email Address ejones@switzerland.k12.in.us
11. # of Schools Participating Two	12. # of Students Being Served 338	13. # of Teachers Participating Five





II. Project Abstract

Briefly describe the proposed project clearly and concisely using the space provided.

Switzerland County Middle School math teachers in grades seven and eight and Algebra I teachers at Switzerland County High School in Vevay, Indiana will use *Agile Mind* digital mathematics curricula and interactive white boards in lieu of traditional text book-oriented instruction. Three hundred thirty-eight students and five teachers will be involved in the pilot program.

Switzerland County School Corporation math scores are below the State average. All but one school is low achievement, low growth. Demographics indicate that Switzerland County is a “high poverty” area with approximately 50% on free and reduced lunch. Child poverty ranks second in the State of Indiana. The *Agile Mind* digital curriculum will utilize innovative strategies for instruction and for engaging students. *Agile Mind* represents the most promising practices of the Charles A. Dana Center at the University of Texas at Austin. Teacher supports include: 1) Teacher professional development in both pedagogy and content; 2) Lesson planning and daily instructional support 3) Classroom presentation tools 4) Closely aligned formative assessments designed to inform instruction and 5) 24/7 student instructional support. Two days of professional development and ongoing support will be provided throughout the project. Local tech support will also provide white-board and technological support as questions/needs arise.

Acuity testing in Algebra as well as current Acuity testing will provide additional assessment results. ISTEP+ testing will occur online. This proposal includes all eligible schools.



Please complete one grant narrative for your LEA which includes all schools. Narratives should be double spaced, 12pt Times New Roman font, and not to exceed 10 pages.

III. GRANT NARRATIVE

Software Choice and Rationale: Identify the digital content program you have selected. Describe how this program aligns with the purpose of the grant. Describe how this program will address the instructional needs of your students and teachers.

We have selected *Agile Mind* for our digital content. It was selected because it meets and exceeds the key elements of the grant and offers an exciting pathway for us to bring constructive innovation to our mathematics instruction.

First, we selected *Agile Mind* because it represents the most promising practices of the Charles A. Dana Center at The University of Texas at Austin. Their authorship provides a strong research basis from which to assure our community that we are delivering the best opportunity for their children to succeed in mathematics and exit high school prepared for postsecondary pursuits. The Dana Center is widely recognized as a preeminent mathematics institute with close collaborative ties to NCTM, Achieve and the ADP network, Urban Math Leadership Network, common core standards and national STEM initiatives. They are heavily published and studied, and their field work includes both research and application. Their work on state and national standards gives confidence the content will align to the rigorous requirements of college preparation and career readiness and their understanding of pedagogy will help shape the way teachers approach the teaching of that content.

Next, we believe *Agile Mind* represents a systemic approach both through vertical alignment across grades and through the comprehensive supports designed to enhance teacher effectiveness. These supports include 1) Teacher Professional Development in both pedagogy and content knowledge; 2) Lesson planning and daily instructional support for teachers; 3) Classroom presentation tools to deliver dynamic and concept rich lessons; 4) Closely aligned formative assessment designed to inform instruction; 5) 24/7 student instructional support to provide reinforcement, practice, and enrichment.



Each of the supports can be obtained individually through a variety of suppliers but only *Agile Mind* brings all five together in a seamless integrated system backed by the integrity of the Dana Center.

Next, in keeping with the intent of the grant, *Agile Mind* is there to support teachers, not to supplant their central role in instruction. Of the five support elements described above, four are specific to enhancing teacher effectiveness and building our capacity to deliver high-quality mathematics instruction. Student-directed support is designed as after-instruction reinforcement, not independent study. The CIM grant lists four primary foci:

- Innovative classroom strategies to push mathematics achievement forward in Indiana.
- Integration of digital curricula and technology into traditional teaching methodologies
- Use of innovative strategies for instruction to make a significant break from the traditional textbook-oriented instruction
- Focus on Middle School Mathematics and Algebra I serving students in 7th, and 8th grades as well as 9th grade Algebra

Next, we believe the online system delivers engaging content and its vertical alignment brings common themes to life across grades. Key points of strength include:

- Engaging, interactive animations, puzzles and explorations present key standards-based concepts—Switzerland County Middle School teachers did a test lesson with remediation students. Since all classes, except next year's seventh graders, have more boys than girls, we need material to attract both genders. The boys loved the skateboarder doing the rate and time problem. They could relate to the problems.
- Multiple representations help students develop deep understanding of standards
- A functions approach to teaching and learning Algebra provide a strong conceptual framework consistent with the goals of NCTM—Teachers in Switzerland County liked the



graphing component of the software and found it to be more useful for mathematics achievement. Since students will have 24/7 access, they will be able to do homework at home when they are ill or on homebound instruction.

- Closely aligned formative assessments, written specifically to serve the crucial concept and skill development goals of each topic, inform instruction and support student learning and reports: 1) Immediate easy-to-read reports detail student progress; 2) Using performance feedback, teachers can immediately adjust and differentiate instruction
- *Agile Mind* imbeds high quality teacher lesson planning and pedagogical support.

Day-by-day online professional development supports effective practice:

1)Comprehensive online support includes advice from experts and high-yield teaching strategies;
2)Language notes and activities provide targeted support for developing student academic vocabulary; 3)Authorship by Dana Center leaders assures the highest quality advice is in the hands of our teachers; 4)Professional development introduces high-yield practices for successfully integrating technology into classroom instruction and supporting students of varied educational backgrounds without compromising high-quality instruction; 5)Classroom presentation tools hone content knowledge while fostering student engagement.

These are among the numerous considerations leading to our decision to propose *Agile Mind*. We believe the goals of the CIM grant will be honored in accordance with its intentions. We add our commitment to implement *Agile Mind* with fidelity, and ensure teachers and administrators alike internalize the professional development and enact the services as designed by its authors, the Dana Center.

Switzerland County School Corporation is excited about the use of this software. Teachers were granted a trial period to experiment with the program and used it with remedial students. The students



loved the animation and were much more engaged with the software than with the teacher. Students from poverty respond to instruction with graphics and visuals. All students liked the Web 2.0 type of interaction and instant responses from their assessments. Most of our students are white and English speaking. 19% of our students are special needs. We can use this software with our project-based learning projects that we are collaborating with Dr. Cathy Brown at Indiana University. We will use with Middle School math, Algebra I at 8th grade at Switzerland County Middle School, and Algebra I with 9th grade students at Switzerland County High School. Our teachers have different needs for instruction. One of the teachers was not on the high quality list and this will provide excellent instruction for his students.

Professional Development: Describe the PD needs of your teacher for using interactive whiteboards and implementing digital curriculum and detail the specific plan for meeting those needs.

Agile Mind is fully compatible with our existing whiteboards. Teachers have been trained and can have additional training locally by our Tech staff, if needed. Teachers currently use the whiteboards daily for instruction. To better prepare for the transition to the Core Standards, teachers will participate in three days training in May 2010 in changing current teaching standards to the national Core Standards with Dr. Cathy Brown, Math professor from Indiana University. (Paid from another grant)

To employ the software effectively in the classroom teachers will need professional development with *Agile Mind*. This will occur in the summer of 2010.

The *Agile Mind* implementation program for educators integrates embedded instructional planning and support tools with face-to-face professional development. Institutes support the work of three key school groups—school administrators, teacher leaders, and teachers—with tools, protocols, and strategies to help develop capacity and extend capacity to support teachers. The professional



development program includes three *Agile Mind* Advisor Sessions for each participating school to ensure teachers have the understanding of the services essential to student success in the month of July.

Two day *Agile Mind* Professional Development Institutes introduce teachers to strategies that help them in the effective use of the *Agile Mind* resources for enhancing student outcomes. Introductions to the function and use of the *Agile Mind* online resources enable teachers, with expert guidance, to incorporate alignment to state standards in their lesson planning, to select a usage model for implementation, to plan common lessons as the focus of implementation, and to agree on processes for analyzing student work.

These professional services are centered on key development attributes: 1) Strengthen content knowledge; 2) Comfortably enable busy practitioners to implement the online resources ; 3)Focus on most promising practices in teaching that align standards, assessment, and instructional resources 4)Enable educators of varying backgrounds to explore, plan, and experience the power of real-time reporting to inform their own instruction .

Teacher needs for content knowledge are addressed by modeling of high yield strategies and instruction planning by experts, designed to orient teachers to the use of resources to effectively manage course instruction, assessment, and benchmarking of progress.

Advisor Sessions will be held during the school year.

Advisor Sessions are tailored to address the greatest needs of participating teachers at each school.

Formal Advisor Sessions include pre-session analyses of school data, and, when appropriate, conducting of phone interviews with district or school staff. Advisors then spend a half day working with teachers to develop implementation skills. Advisors are also available by phone and email for



ongoing just-in-time support.

In conjunction with local leadership and including teacher requests, the advisor determines the plan for the visit. Advisor Sessions focus on needs of teachers and can range from a short planning session to in-depth meetings.

Agile Mind Advisor preparation work consists of: 1) Planning with the School/Projector Director to customize the visit activity based on the needs of the teachers at the school; 2) Interacting with the Principal or mathematics instructional leader during the same day as services are delivered to other educators; 3) Utilizing online reports to analyze needs of students and teachers; 4) Preparing an updated status report outlining the current state of the site implementation.

Carefully integrated activities support the goals of implementation: 1) Reviewing of student data with the teacher and examining student work ; 2) Helping teachers implement strategies they learned during initial seminars; 3) Co-planning and co-teaching of learning experiences for students for teachers to enhance their classroom practices 4) Working 1:1 with teachers in need; 5) Working with specific content teachers (i.e. Algebra I) in small groups to meet individual needs of the specific grade level; 6) Aligning Agile Mind tools with local resources for optimum integration .

Additionally, advisors can, if desired, assist administrators in planning for the following year to provide a continuum of services to ensure a successful on-going and increasingly strategic implementation of the services for student success. School leaders choose which activities will occur during an advisory visit..

Professional Development will be given of how to make optimum use of Acuity data to guide instruction. All teachers will be required to attend. Teachers will have two half days of analyzing data



and developing individual plans for students, with subs provided, after the Acuity test (or State recommended test) is given.

The monitoring of the fidelity of implementation will be accomplished in two key ways: Classroom visitations and monthly activity report monitoring.

An administrator will observe each *Agile Mind* teacher a minimum of twice per month to determine appropriate implementation and provide coaching. *Agile Mind* professional development for school and district leaders includes specific instruction on what to look for and a checklist of observable traits indicative of productive, stage-appropriate implementation. These observations are formalized into a monthly review that informs our support staff and our *Agile Mind* Advisor of potential professional development needs.

The *Agile Mind* protocol calls for teacher usage of at least one hour per week per class once a period of exploration is complete. Two hours is the desired norm. Usage below the protocol level warrants further understanding of implementation patterns for teacher participants. Should it be determined to indicate a drop in effective participation, appropriate steps will be taken to encourage renewed commitment and participation. *Agile Mind* Advisors are trained in appropriate patterns for adoptions of innovative teaching resources and can be enlisted to provide supportive strategies.

Students' usage is more difficult to assess quantitatively, as their activities are both shared with their teacher in classrooms and may occur offline due to real or perceived limitations to their access to the internet. The monthly report of usage includes student data, and to the extent online usage reflects true usage, we will seek online use of one hour per week per student. This falls within the protocol of 60-90 minutes per week per student. For levels below that we will investigate possible reasons and consult



our Agile Mind Advisor to help shape appropriate student usage.

Implementation Plan – Interactive Whiteboards: Outline your current inventory of interactive whiteboards, how you can realign current inventory to meet program goals of one interactive whiteboard per classroom mathematics teacher, and what funds you would apply for in order to address these gaps.

All of our mathematics classrooms already have interactive whiteboards and have been trained. We will not be applying for funds in this area.

Implementation Plan – Online Assessments: Describe each school's capacity and commitment to administer online ISTEP+ and ECA assessments, as well as Acuity Assessments, both with and without additional lab space that grant funds could provide. Describe how teachers will ensure that students are trained on how to properly complete online assessments.

Online Assessment Plan:

Each teacher has a whiteboard, a teacher computer with internet access and connectivity to an interactive whiteboard. Switzerland County High School currently does some ECA assessments online and has several labs to accommodate the tests. However, the Middle School will need to add one lab to facilitate Acuity testing, online testing, and once a week work by students suggested by our software company. All ISTEP+ testing for Middle school students will be done online. Teachers will train students to do online assessments by conducting weekly assessments provided by *Agile Mind* and by doing Acuity Assessments online. This will get students accustomed to doing assessments online. Teachers will also give specific instructions before the online tests. Our school corporation has just received a grant to increase our bandwidth from 6 meg now to 15 meg which will also enhance our ability to do online testing without major problems. In the past, we have blocked some sites during the testing period to make things go smoothly. We have recently updated our servers to handle large graphic projects and math problems

IV. BUDGET

See program overview for allowable costs. List each expenditure on a separate line.

Expenditures Budget (Use a separate line for each expenditure, and add rows as needed)				
<u>Expenditure Description</u>	<u>Person Responsible</u>	<u>Cost per Unit</u>	<u>Number of Units</u>	<u>COST</u>
Digital curriculum subscriptions (list vendor) – Agile Mind	Rhonda Pennington	\$30/student	338.00	10,140.00
Professional development reimbursements	Wilma Swango, Treas.	\$300.00	5	1500.00
Interactive whiteboard (list make and model number)	We already have.			No cost
Acuity Algebra set-up fee	John Sieglitz	\$4,500.00	1	\$4,500.00
Cost for Acuity Algebra administration (per student) 8 th and all 9 th	Wilma Swango, Treas.	8.75 each	145	1,268.75
Costs related to online assessment	John Sieglitz			\$100.00
			Total Funds Requested	\$17508.75

LOCAL SHARE*

*This is not a requirement for the grant, but it will help us to determine the additional resources need at the local level.

Expenditures Budget (Use a separate line for each expenditure, and add rows as needed)				
<u>Expenditure Description</u>	<u>Person Responsible</u>	<u>Cost per Unit</u>	<u>Number of Units</u>	<u>COST</u>
Professional Development				0
Additional lab set up	John Sieglitz (for M.S. Algebra)	\$633.33	30	\$25,000.00
Additional Costs for Interactive Whiteboard (e.g. installation materials)				0
			Total Funds Requested	\$25,000.00



V. ASSURANCES

By checking each box below, you agree to the following assurances:

xThe LEA assures that Acuity online assessments will be administered to assess student growth during the grant period (e.g. Acuity Predictive or Pre/Post Test; the exact assessments will be determined by the DOE, but will not exceed 3 tests during the school year, excluding ISTEP+ and ECA).

xThe LEA assures that, given favorable results on a statewide level, it will give serious consideration to sustained use of digital curricula in all schools in the LEA until the next textbook adoption cycle (2016-17 school year).

xThe LEA assures that the selected digital curriculum will be implemented, with fidelity, as the core curriculum for all mathematics classrooms (6th Grade, 7th Grade, 8th Grade, and/or Algebra I) at each school that receives grant funds, for the duration of the school year. "With fidelity" implies that districts will take the steps necessary to implement the digital curriculum as outlined by the vendor.

**** Sixth grade is part of the elementary for next year and will not be participating!**

xThe LEA assures that teachers will be provided with professional development necessary to implement digital curriculum with fidelity. Professional development includes, but is not limited to, training on digital curriculum software, integrating interactive whiteboards into a standards-based classroom, and using Acuity assessments to guide instruction.

xThe LEA assures that funds used for interactive whiteboards will remain in mathematics teacher classrooms for the duration of the program. Any realignment of current inventory for these purposes will also remain in effect for the duration.

xThe LEA assures that all 7th and 8th grade students in Algebra I will take the Algebra ECA online.

xThe LEA assures that all students will take the ISTEP+ online, unless the school can demonstrate an inability to test all students online.

xThe LEA assures that all teachers that use digital curriculum will participate in an *anonymous* evaluation of the program to determine its ability to impact teaching methods.

xThe LEA assures that classrooms in which digital curriculum is being used will be available for observation by certain members of the Department of Education, with reasonable notification, to provide for a qualitative analysis of program effectiveness.

xThe LEA assures that all students will complete a survey regarding the effectiveness of the digital curriculum.

xThe LEA assures that all hardware and software implementations will be put in place before the start of the 2010-11 school year and that professional development related to this program will begin before the start of the 2010-11 school year.

xThe LEA agrees to keep such records and to provide such information to the State educational agency, as may be reasonably required for fiscal audit and program evaluation (consistent with the responsibilities of the State educational agency under this part).



VI. SIGNATURES

List the management team of this grant for each school. Each member of the management team should also sign below. Complete this sheet for *each* school that is included in the district's implementation plan.

School Name:

Grade Levels:

NAME	POSITION	Signature
1. <u>Dr. Elizabeth Tharp Jones</u>	Superintendent	<i>Elizabeth Tharp Jones</i>
2. <u>We do not have this position</u>	District Math Coordinator	
3. <u>John K. Sieglitz</u>	District Assessment Coordinator	<i>John K. Sieglitz</i>
4. <u>Mr. John Druba and Mr. Dan Noel</u>	Principal	<i>Mr. John Druba and Mr. Dan Noel</i>
5. <u>Sheila Gault M.S. Chair</u> <u>Pam Jones, H.S. Chair</u>	Math Department Chair	<i>Sheila Gault/Pam Jones</i>